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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,267	07/14/2006	Nigel Paul Schofield	M03B327	7751

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EXAMINER	
TRIEU, THERESA	
ART UNIT	PAPER NUMBER
3748	

NOTIFICATION DATE	DELIVERY MODE
02/02/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LORETTA.SANDOVAL@EDWARDSVACUUM.COM

Office Action Summary	Application No.	Applicant(s)	
	10/586,267	SCHOFIELD, NIGEL PAUL	
	Examiner	Art Unit	
	Theresa Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-13 and 15-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-13 and 15-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

EXAMINER'S COMMENT

This Office Action is responsive to the applicants' amendment filed on Dec. 13, 2010.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Dec. 13, 2010 has been entered.

Claims 1 and 11 have been amended. Claims 4 and 14 have been canceled. Accordingly, claims 1-3, 5-13 and 15-21 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawe et al. (Sagawe) (Publication Number WO 01/16489) in view of Wycliffe et al. (Wycliffe) (Patent Number 3,677,664).

Regarding claims 1 and 2, as shown in Fig. 1, Sagawe discloses a pump comprising: a chamber defining with first and second externally threaded rotors 12, 14 mounted on respective shafts 18, 20 rotatably disposed for counter-rotation within the chamber a plurality of flow paths 26, 28 having respective fluid inlets wherein a first one and a second one of the respective inlets

32, 34 are located at a common low pressure side of the chamber and on a common plane (see Fig. 1), and wherein threads of the first and second rotors 12, 14 are intermeshed at a location adjacent to the first and second inlets 32, 34, such that fluid entering the chamber via the first and second inlets 32, 34 is moved through the flow paths by the first and second rotors in a manner of positive displacement; a fluid outlet 36 is located towards or at a common high pressure side of the chamber. However, Sagawe fails to disclose a pump being a screw pump.

Regarding claims 1 and 9, Wycliffe teaches that it is conventional in the screw pump to utilize the pump being a screw pump (see col. 3, lines 61-63); a pump body 14 defining said chamber, said body having first and second opposing plates (not numbered; however, clearly seen in Fig. 4) and wherein the first and second ones of the inlets are formed in the first plate and the fluid outlet is formed in the second plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the screw vacuum pump as taught by Wycliffe in the Sagawe device since screw pump are routinely utilized as vacuum pumps.

Regarding claims 3 and 5-7, Sagawe further discloses the first one and the second one of the respective inlets are formed in a common surface defining the chamber (see Fig. 1); a first one and second one of the plurality of the flow paths merge at the fluid outlet of the chamber (see Fig. 1); a first one and a second one of the plurality of the flow paths are arranged such that fluid flows along the flow paths in substantially the same direction (see Fig. 1); a first one of the plurality of flow paths 26 is defined between an internal surface of the chamber and an external surface of the first rotor 12, and a second one of the plurality of flow paths 28 is defined between the internal surface of the chamber and an external surface of the second rotor 14.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawe in view of Wycliffe as applied to claim 1 above, and further in view of legal precedent.

The modified Sagawe discloses the invention as recited above; however, the modified Sagawe fails to disclose the difference pressure between the first and second inlets. It is examiner's position that one having ordinary skill in the screw pump art, would have found it obvious to have utilized a first one of the plurality of inlets is at a pressure higher than a pressure at a second one of the plurality of inlets during pumping, since it is merely design parameters depending on the being used for a particular purposes or solving a stated problem. Moreover, there is nothing in the record which establishes that the claimed pressure different between the first and second inlet, presents a novel of unexpected result (See In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawe in view of Wycliffe as applied to claim 1 above, and further in view of Taniguchi et al. (Taniguchi) (Patent Number 6,196,810).

The modified Sagawe discloses the invention as recited above; however, the modified Sagawe fails to disclose a first pump and a second pump connected to the inlet of the screw pump.

Taniguchi teaches that it is conventional in the screw pump to utilize a first pumping unit 13a having an exhaust 18a connected to the first inlet 18 of the screw pump and a second pumping unit 13b having an exhaust 18b connected to the second inlet 18 of the screw pump. It would have been obvious to one having ordinary skill in the screw pump art at the time the invention was made, to have utilized the first and second pumps, as taught by Taniguchi in the

Sagawe apparatus, since the use thereof would have provided a high vacuum performance expected of a multistage vacuum pump without shortening the lifetime of the pump.

5. Claims 11-13, 15-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawe in view of Taniguchi et al. (Taniguchi) (Patent Number 6,196,810) and Wycliffe.

Regarding claims 11 and 12, Sagawe discloses a pumping arrangement comprising: a pump comprising a body defining a chamber housing first and second externally threaded rotors 12, 14 mounted on respective shafts 18, 20 rotatably disposed for counter-rotation within the chamber the rotors 12, 14 defining with the body first and second flow paths 26, 28 passing through the chamber, each flow path having a respective fluid inlet 32, 34 located in said body; and wherein the fluid inlet 32 of the first flow path 26 and the fluid inlet 34 of the second flow path 28 are located at a common low pressure side of the chamber and on a common plane (see Fig. 1); a fluid outlet 36 is located at a common high pressure side of the chamber. However, Sagawe fails to disclose first and second pumping unit and the pump being a screw pump.

Taniguchi teaches that it is conventional in the screw pump to utilize a first pumping unit 13a having an exhaust 18a connected to the first inlet 18 of the pump and a second pumping unit 13b having an exhaust 18b connected to the second inlet 18 of the pump. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the first and second sources of Sagawe with the first and second pumps Taniguchi as a matter of simple substitution of one known element for another to obtain predictable results. KSR, 550 U.S. (2007).

Wycliffe teaches that it is conventional in the screw pump to utilize the pump being a screw pump (see col. 3, lines 61-63). It would have been obvious to one having ordinary skill in

the art at the time the invention was made, to have utilized the screw vacuum pump as taught by Wycliffe in the modified Sagawe device since screw pump are routinely utilized as vacuum pumps.

Regarding claims 12-13, 15-17 and 19-21, Sagawe discloses a fluid outlet 36 is located at a common high pressure side of the chamber; each one of the respective inlets 32, 34 are formed in a common surface of the body 16; each one of the respective flow paths 26, 28 merge at the fluid outlet 36 of the chamber (see Fig. 1); each one of the respective flow paths are arranged such that fluid flows along the flow paths in substantially the same direction (see Fig. 1); a first one of the plurality of flow paths 26, 28 is defined between the body 16 and an external surface of the first rotor 12, and a second one of the plurality of flow paths 26, 28 is defined between the body 16 and an external surface of the second rotor 14; the fluid inlet 32 of the first flow path and the fluid inlet 34 of the second flow path are formed in a common surface of the body (see Fig. 1); each of the plurality of inlets 32, 34 are located on a common plane (see Fig. 1).

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawe in view of Taniguchi and Wycliffe as applied to claim 11 above, and further in view of legal precedent.

The modified Sagawe discloses the invention as recited above; however, the modified Sagawe fails to disclose the difference pressure between the first and second inlets. It is examiner's position that one having ordinary skill in the screw pump art, would have found it obvious to have utilized a first one of the plurality of inlets is at a pressure higher than a pressure at a second one of the plurality of inlets during pumping, since it is merely design parameters depending on the being used for a particular purposes or solving a stated problem. Moreover, there is nothing in the record which establishes that the claimed pressure different between the

first and second inlet, presents a novel of unexpected result (See In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT

/Theresa Trieu/
Primary Examiner, Art Unit 3748